

IN THE CLAIMS:

Please amend the claims as indicated below. Following entry of these amendments, the following claims are pending in the application:

1. (Currently Amended) A method of identifying an object having identification information, and wherein said identification information **is being** used to verify the identity of the object, said method comprising:

(a) determining at least one characteristic of a magnetic field of at least a portion of a tag, thereby obtaining a first specific magnetic signal, wherein the tag comprises (i) a host material having a disordered plurality of pores **on a surface thereof**, said host material being at least substantially non-magnetic, **and (ii) wherein at least some of the disordered plurality of pores of the host material have been filled with a magnetic material positioned within at least some of the disordered plurality of pores after formation of said pores, wherein the specific magnetic signal providing identification information for the object represents the disorder of the plurality of pores**, and

(b) storing signal information relating to said first specific magnetic signal, said stored signal information forming the identification information of the object.

2. (Original) The method of claim 1, wherein the step of determining at least one characteristic of said magnetic field of the at least one portion of said tag comprises a measurement of said characteristic of the site specific magnetic field over a surface of said portion of the tag, thereby mapping a magnetic fluctuation signal.

3. (Original) The method of claim 1, wherein storing signal information relating to the first specific magnetic signal comprises storing data corresponding to the at least one characteristic of said magnetic field over said portion of the tag.

4. (Original) The method of claim 1, further comprising:

subsequently determining the at least one characteristic of the magnetic field of said portion of the tag, thereby obtaining a second specific magnetic signal, and comparing said second specific magnetic signal with the previously stored identification information.

5. (Original) The method of claim 4, further comprising:
magnetizing the tag prior to each determination of the at least one characteristic of the magnetic field of said portion of the tag.
6. (Original) The method of claim 1, further comprising:
recording information on the tag by magnetizing the magnetic material present in groups of pores into poled domains, or patterning pores of the tag with magnetic material.
7. (Original) The method of claim 1, wherein the tag is attached to the object to be identified after obtaining the first specific magnetic signal.
8. (Original) The method of claim 1, wherein the tag is attached to the object to be identified before obtaining the first specific magnetic signal.
9. (Original) The method of claim 1, wherein the tag comprises a substrate supporting the host material.
10. (Original) The method of claim 9, wherein the substrate comprises material selected from the group consisting of metal, silicon, silica, glass, plastic, ceramic and combinations thereof.
11. (Original) The method of claim 1, wherein the host material is selected from the group consisting of alumina, zeolites, group III-V materials, polymers, silicon oxide, zinc oxide and tin oxide.
12. (Original) The method of claim 1, wherein the host material comprises nanotubes.
13. (Original) The method of claim 12, wherein the nanotubes are cast within a second host material.
14. (Original) The method of claim 1, wherein the magnetic material is selected from the group consisting of Fe, Ni, Co, their alloys, oxides, mixtures and combinations thereof.
15. (Original) The method of claim 1, wherein the pores of the host material have a diameter between 100 nm to 500 nm.

16. (Original) The method of claim 1, wherein the tag further comprises at least one coating layer.

17. (Original) The method of claim 1, wherein said at least one characteristic of the magnetic field of the portion of the tag is highly dependent on the disorder of the tag.

18. (Original) The method of claim 17, wherein the disorder is due to a feature selected from the group consisting of pore size, shape and orientation of pores, percentage of pore filling, crystal orientation of magnetic material in the tag, and combinations thereof.

19-22 (Cancelled)

23. (Currently Amended) A method of producing a system for object identification, said method comprising:

(a) determining at least one characteristic of the magnetic field of at least a portion of a tag, thereby obtaining a first specific magnetic signal, wherein the tag comprises (i) a host material having a disordered plurality of pores on a surface thereof, said host material being at least substantially non-magnetic, and (ii) wherein at least some of the disordered plurality of pores of the host material have been filled with a magnetic material positioned within at least some of the disordered plurality of pores after formation of said pores, wherein the specific magnetic signal providing identification information for the object represents the disorder of the plurality of pores, and

(b) storing signal information relating to said first specific magnetic signal, said stored signal information forming the identification information of an object to be identified.

24. (Cancelled)

25. (Currently Amended) A tag carrying identification information, said identification information ~~is being~~ used to verify an object's identity, said tag comprising:

(a) a host material having a disordered plurality of pores on a surface thereof, said host material being at least substantially non-magnetic,

(b) ~~wherein at least some of the disordered plurality of pores of the host material have been filled with a magnetic material~~ **positioned within at least some of the disordered plurality of pores after formation of said pores, wherein the identification information for the object is a magnetic signal representing the disorder of the plurality of pores**, and

(c) at least one coating layer covering at least partially a surface of the host material.

26. (Original) The tag of claim 25, wherein said coating layer comprises a material which has a bulk yield stress greater than 50 MN/m².

27-28 (Cancelled)

29. (Currently Amended) An object having a tag carrying identification information, said identification information ~~is being~~ used to verify the object's identity, said tag comprising:

(a) a host material having a disordered plurality of pores on a surface thereof, said host material being at least substantially non-magnetic,

(b) ~~wherein at least some of the disordered plurality of pores of the host material have been filled with a magnetic material~~ **positioned within at least some of the disordered plurality of pores after formation of said pores, wherein the identification information for the object is a magnetic signal representing the disorder of the plurality of pores**, and

(c) at least one coating layer covering at least partially a surface of the host material.

30. (Cancelled)

31. (Currently Amended) A system for object identification, said system comprising:

(a) a tag carrying identification information, said identification information ~~is being~~ used to verify an object's identity, wherein said tag comprises (i) a host material having a disordered plurality of pores on a surface thereof, said host material being at least substantially non magnetic, and (ii) ~~wherein at least some of the disordered plurality of pores of the host material have been filled with~~ a magnetic material positioned within at least some of the disordered plurality of pores after formation of said pores, wherein the identification information for the object is a magnetic signal representing the disorder of the plurality of pores, and

(b) a data storage medium for storing data corresponding to a magnetic signal obtained from at least a portion of the tag.

32. (Cancelled)